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In the Supreme Court of the United States

OCTOBER TERM, 1957.

No. 836.

JAMES C. HOBES, a citizen of the United States and a resident of Florida,

Petitioner,

vs.

WISCONSIN POWER & LIGHT COMPANY, a Wisconsin Corporation, and WILLIAM POWELL COMPANY, an Ohio Corporation,

Respondents.

PETITION FOR A WRIT OF CERTIORARI To the United States Court of Appeals for the Seventh Circuit.

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In the Supreme Court of the United States

OCTOBER TERM, 1957.

No. .....

JAMES C. HOBBS, a citizen of the United States and a resident of Florida,

Petitioner,

vs.

WISCONSIN POWER & LIGHT COMPANY, a Wisconsin Corporation, and WILLIAM POWELL COMPANY, an Ohio Corporation,

Respondents.

PETITION FOR A WRIT OF CERTIORARI To the United States Court of Appeals for the Seventh Circuit.

To the Honorable, the Chief Justice of the United States and the Associate Justices of the Supreme Court of the United States:

Petitioner respectfully prays that a Writ of Certiorari issue to review the Judgment of the United States Court of Appeals for the Seventh Circuit, entered on December 6, 1957, in which Petitioner was the Plaintiff-Appellant.

A certified transcript of the record in the case, including the Joint Appendix of the parties in three volumes, a book of patent copies, a book of exhibits and the proceedings in said Court of Appeals, together with nine additional copies of the Joint Appendix of the parties in three volumes, is furnished herewith in compliance with Rule 38 of the rules of this Court.

OPINIONS BELOW.

The findings and conclusions of the United States District Court for the Western District of Wisconsin are reported at 145 Fed. Supp. 64 and appear at pages 1407-1432, Vol. III of the Joint Appendix.*

The opinion of the United States Court of Appeals for the Seventh Circuit is reported at 250 F. 2d. 100, and appears as Appendix A of this Petition.

JURISDICTION.

The judgment of the Court of Appeals sought to be reviewed was dated and entered December 6, 1957.

The jurisdiction of this Court is invoked under 28 U. S. C. 1254(1) and under Section 1(b) of Rule 19 of the Court.

QUESTIONS PRESENTED.

1. Did the Court below err in ruling that the statute, 35 U. S. C. 103, made no change in the standard of invention, and in holding non-invention in the absence of any fact finding of obviousness and despite findings of objective evidences of non-obviousness, all in direct conflict with the ruling of the Court of Appeals of the Second Circuit in *Lyon v. Bausch & Lomb*, 224 F. 2d 530?

2. Did the Court of Appeals err in holding that the presumption of validity of a patent pursuant to the statute, 35 U. S. C. 282, does not exist as against evidence of prior art not cited by the Patent Office, even though such prior art is no better than the prior art which was cited by the Patent Office?

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* The volumes and pages of the Joint Appendix are referred to herein as "1, 2 or 3A. ." The pages of the Exhibit Volume are referred to as "E. V. ." The patents in the patent book are identified by numbered tabs.

3. Did the Courts below err in holding patent Re. 23,137 invalid on the ground that the new differential angle of the invention, which converted failure into success, was an unpatentable difference in degree?

4. Did the Courts below err in holding that the test of infringement is whether the details of the accused valves are identical or equivalent to the details specified in the claims and in holding non-infringement of patent Re. 23,272 even though the accused valves embody all the elements or the full equivalents of the elements of the claims?

5. Did the Courts below err in holding non-infringement of patent Re. 23,137 on the ground that plaintiff is estopped, by the Examiner's first rejection, to obtain the benefit of a broadening amendment permitted by the Examiner on reconsideration of that rejection?

STATUTES INVOLVED.

"35 U. S. C. 102. Conditions for patentability; novelty and loss of right to patent

A person shall be entitled to a patent unless * * *"

* * * * *

"35 U. S. C. 103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

"35 U. S. C. 282. **Presumption of validity; defenses**

A patent shall be presumed valid. The burden of establishing invalidity of a patent shall rest on a party asserting it."

* * * * *

STATEMENT OF THE CASE.

This action is for infringement of two patents on inventions of petitioner, James C. Hobbs, relating to valves and joint seals for use in generating steam at high pressures and temperatures.

The achievements of these inventions are outstanding. They filled a need and solved a long standing problem in the steam power plant field which experts had tried and failed to solve; they made it possible to obtain a fifty per cent increase in power over that previously obtained from a given amount of fuel without any increase in cost; they eliminated the leakage of the prior valves and lessened the maintenance problem. (3 A. pp. 1410-1413; Findings 11-23.)

There is no proof and no finding that any prior valve realized or was capable of realizing these results.

Patent Re. 23,272 covers a new combination with a new mode of operation. The prior art bonnets, which carried and guided the valve stem and were removably bolted or screwed to the body to close the access opening, leaked at the joints from the pressure and temperature forces. (3 A. pp. 1408, 1409-1410; Findings 6, 11-13.)

Petitioner's invention divides both the bonnet and the forces, carries the valve stem and its actuating means by an outer member secured to the body, guides the valve stem by a floating inner member telescoped in the outer member and slidable on the stem, and seals the joint with a pressure seal between the inner and outer members.

"Fluid pressure within the valve causes the inner member to slide outwardly a slight amount and increase the compression of the packing, so as to prevent leakage at all pressures without misaligning the valve stem with the seat.

* * * * *

"* * * the reaction forces from the valve stem are transmitted to the outer member and the body so that none of these forces can act on the packing in a direction to open the joint or cause leakage." (3 A. pp. 1411-1412; Finding 20.)

Defendants' expert admitted that no single prior art item discloses the invention, and that the most pertinent prior art is in two entirely different groups, (1) valves and (2) seals. (2 A. p. 891.) The prior valves leaked and the prior seals did not guide valve stems or transmit stem forces.

These inventions have been accepted and used to the practical exclusion of all other valves for high pressure and temperature steam power plants. (1 A. 337, 2 A. 754, 3 A. 962.) Many millions of dollars worth of the patented valves have been sold and two (1 A. 183) of the six or seven makers of such valves (1 A. 339) were licensed and sold over $15,000,000 worth of the valves. (1 A. 188.)

It had long been known that steam power plants could produce more power with a given amount of fuel by operating at higher pressures and temperatures (1 A. pp. 144-147; Finding 16; 3 A. p. 1410), but the lack of valves which would remain tight under the tremendous loads was a "bottleneck" preventing the realization of such savings (1 A. p. 147; 3 A. pp. 1117-1118).

The valves of the patents in suit eliminated this bottleneck and permitted attainment of the maximum efficiency in steam power plants (3 A. pp. 994-995, 999).

Petitioner had built steam power plants which were handicapped by this same "bottleneck" (3 A. p. 1411, Finding 19). When petitioner believed he had solved the problem he built a plant to operate at 2200 pounds pressure and 950° F. temperature, conditions far more severe than in any prior plant but which, if successful, would furnish fifty per cent more power from a given amount of fuel. Such savings were ultimately realized (1 A. p. 147; 3 A. p. 994). The plant produced power worth $180,000 a year in excess of the power that could have been produced with the same amount of fuel by the most efficient plant that could have been built with the prior art valves (3 A. pp. 995, 999).

The District Court found

> "Prior to the issue of the patent in suit there had been a need for valves which would overcome the leakage and maintenance problem, * * *" (A. p. 1411, Finding 18.)

and the plaintiff

> "first encountered the leakage and maintenance problem of bolted bonnet valves in 1911." (A. p. 1411, Finding 19.)

As found by the District Court, valves for steam plant service have an access opening which

> "* * * must be closed and sealed against leakage * * * and must be capable of being readily opened * * * The closure must support and guide the valve stem, and therefore must be positively held in correct position and alignment on the valve body." (A. p. 1408, Finding 6.)

The District Court found:

> "The fluid pressure within the bolted bonnet valves exerted a pressure load on the bonnet tending to force it away from the body * * * This load acted

in a direction to stretch the bolts and force open the joint between the body and bonnet and to permit leakage * * *.

* * * * *

"Extremely high forces, created by expansion of the stem when a valve containing hot fluid was closed, acted in the direction to pull the bonnet from the body, stretch the bolts and open the joint to permit leakage, * * *

* * * * *

"Bolted bonnet valves used for high temperature, high pressure fluids also develop leaks from 'creep' or elongation of metal under load at high temperatures, * * *." (3 A. pp. 1409-1410, Findings 11, 12, 13.)

The Court of Appeals said (250 F. 2d 105; post p. 31):

"There was a finding of the existence of a problem in connection with the bolted bonnet valves and that there had been other attempts and failures to solve this problem."

In addition, as the lower Court found (Finding 14, A. p. 1410):

"The high-temperature high-pressure fluids of a steam power plant are extremely dangerous if permitted to escape, without restraint."

The District Court found that there has been wide public adoption and use of the claimed invention of patent Re. 23,272 and extensive commercial success (3 A. 1413: Finding 23).

The defendant Powell built for petitioner the first valves in which the inventions of the patents in suit were tried out. After agreeing to build these valves, defendant Powell described the Hobbs' inventions as "basic ideas"

(E. V. 272). Defendant wrote regarding these same valves:

> "We all realize that this job is a very special one which we must get because of its importance in the industry and the reputation we will acquire after the job is in operation." (E. V. 262.)

and also wrote (E. V. 274):

> "* * * we hope that when the time comes that you are ready to make a decision as to how you wish to utilize your patents that we may be given a first consideration.
>
> "To confirm the verbal agreement made by Messrs. Gnann and Noll, the William Powell Company will not sell valves the same as covered by this order to any other company without first taking the matter up with the Diamond Alkali Company."

On February 1, 1945, defendant Powell was licensed under the patents in suit, agreeing to pay royalties (E. V. 8), and on May 17, 1946, it paid Hobbs $5,000 for this license (E. V. 275), at which time it also tried to secure a new license (E. V. 275-277; 2 A. pp. 908-909). Defendant told petitioner that if it could not obtain a license it would go ahead and manufacture without one (2 A. p. 909).

Defendant Powell did just that, and pleaded that the accused valves (1 A. p. 21):

> "follow the teachings, knowledge and constructions"

of the valves embodying the inventions in issue which it had first made for petitioner.

Patent Re. 23,137 in suit covers petitioner's new pressure seal joint. It includes a soft metal packing ring having a thin lower edge and a very small differential angle of not more than two degrees between the packing ring and the inner member. The differential angle permits the thin edge of the ring to be deformed readily into sealing en-

gagement with the wall of the body and the smallness of the angle causes the bearing area to increase in width rapidly to support increased loads without squirting the metal of the thin edge into the gap between the members so as to prevent disassembly. It is readily sealed, prevents leakage and may be readily re-opened and reclosed.

The invention of patent Re. 23,137 has been used in the commercial valves made by petitioner's licensees (2 A. pp. 547-548) and has been copied by the defendant. (1 A. pp. 18-19, 2 A. p. 548.)

The prior art consists of two prior efforts and failures to solve the metallic packing problem, each having an entirely different mode of operation than patent Re. 23,137.

The Bredtschneider patent 2,029,606 (P. B. tab 15) disclosed a hard metal ring engaging the inner member at its thickest part and never deforming or coining. The specification states (p. 1, col. 2, lines 21-28):

> "The new ring * * * is stressed only within its elastic limit. It is not squeezed together at all; that is, there is substantially no flow of metal so that provision can be made for ample clearance between the locking cover of the wall of the vessel and the holding ring."

The Bridgman disclosure (E. V. 87) shows a metal ring cut at an excessively large differential angle. This device could not be re-opened because the metal squirted into cracks around the closure (2 A. pp. 925-927).

Neither Bredtschneider nor Bridgman ever achieved commercial use (2 A. pp. 895, 926).

The Bredtschneider patent itself condemned the Bridgman disclosure as being useless because it could not be re-opened. The Bredtschneider patent said (p. 1, col. 1, lines 7 to 21):

> "In general, means for utilizing the inner pressure of a pressure vessel for the sealing purpose are in

themselves universally known. Most of the means heretofore employed for the purpose, however, are objectionable for the reason that it is very difficult to open the closed vessel, that is to remove the cover therefrom, because the packing material employed for the sealing purpose is forced by the cover into the gap between the wall of the vessel and the abutment members fixed therein, in the manner of a stuffing-box so as to form an obstacle which does not give up the expansion power stored up therein, even not after the inner pressure has been removed, and renders it very difficult to remove the cover."

REASONS FOR ALLOWANCE OF WRIT.

(1) The decision of the Court below is in direct conflict with the decision of the Court of Appeals for the Second Circuit in Lyon v. Bausch & Lomb, 224 F. 2d 530, in construing the new patent statute, 35 U. S. C. 103.

(2) The decision of the Court below is in direct conflict with the decision of the Court of Appeals for the Fourth Circuit in Otto v. Koppers, 246 F. 2d 789, in construing section 282 of the statute, 35 U. S. C.

(3) Each of these conflicts is an important question of Federal law of urgent importance to the public which should be, but has not been, settled by this Court.

(4) The remainder of the rulings of the Court below adverse to petitioner are in direct conflict with the statute and the applicable decisions of this Court.

(1) The Conflict with the Court of Appeals for the Second Circuit: In the instant case the Court of Appeals held (250 F. 2d 105; post p. 31):

"Appellant stresses evidence of a long felt want, license acceptance and commercial success of the patent, as well as prior attempts and failures to achieve solution

of the bolted bonnet problem. 'Copying' and acceptance of the patent by the defendant, Powell Company, and skepticism as to the worth of the valve prior to its successful use are also emphasized. There was a finding of the existence of a problem in connection with the bolted bonnet valves and that there had been other attempts and failures to solve this problem."

The Court of Appeals properly rejected the District Court's fact findings of obviousness at a date later than "the time the invention was made." Nevertheless, the Court of Appeals held that objective evidence that the invention had not been obvious must be ignored when it now appears, in retrospect, that the new whole may be analyzed into old parts.

The Court below said (250 F. 2d 105; post p. 32):

"It should finally be noted that objective considerations cannot lend validity to a patent where as here invention is plainly lacking. See Great A. & P. Tea Co. v. Supermarket Equipment Corp., supra; Goldman v. Bobins, 7 Cir., 1957, 245 F. 2d 840, 844."

On the other hand, the Court of Appeals for the Second Circuit held that conclusions based on apparent simplicity are subordinated by the statute, 35 U. S. C. 103, to objective evidence that the invention had, in fact, been unobvious to the workers in the art. It said in *Lyon v. Bausch & Lomb*, 224 F. 2d 530, 535:

"The most competent workers in the field had for at least ten years been seeking a hardy, tenacious coating to prevent reflection; there had been a number of attempts, none satisfactory, meanwhile nothing in the implementary arts had been lacking to put the advance into operation; when it appeared, it supplanted the existing practice and occupied substantially the whole field. **We do not see how any combination of evidence could more completely demonstrate that,**

> simple as it was, the change had not been 'obvious * * * to a person having ordinary skill in the art'—§ 103." (Emphasis ours.)

The two Courts stated their conflicting interpretations of the statute. In the instant case the Court of Appeals said (250 F. 2d 104, post p. 29):

> "* * * this statute sets forth essentially the same test which had been applied in this circuit for a number of years."

In *Lyon v. Bausch & Lomb*, 224 F. 2d 530, 535, the Court of Appeals for the Second Circuit said, pages 534, 535, 537:

> "Therefore we at length come to the question whether Lyon's contribution, his added step, was enough to support a patent. It certainly would have done so twenty or thirty years ago; indeed it conforms to the accepted standards of that time."
>
> * * * * *
>
> "On the other hand it must be owned that, had the case come up for decision within twenty, or perhaps, twenty-five years before the Act of 1952 went into effect on January 1, 1953, it is almost certain that the claims would have been held invalid."
>
> * * * * *
>
> "* * * we hold that the patent should be regarded as valid ab initio for all purposes."

Thus the Court of Appeals for the Seventh Circuit in the instant case and the Court of Appeals for the Second Circuit in *Lyon v. Bausch & Lomb* are in direct and irreconcilable conflict as to the effect of the new Patent Act in each of two particulars.

First, the Court below has held that all objective evidence of non-obviousness of the invention must be ignored when it now seems a simple matter to have assembled the

whole invention from old parts; whereas, the Second Circuit has held that objective evidence that the invention was in fact unobvious before it was made establishes patentability under the statute regardless of the simplicity of the change.

Second, the Court below has specifically held that the new statute does not change its standard of invention as applied in recent years; whereas, the Second Circuit has held that the statute lowers the "high standard" of recent years and restores the old standard of invention.

The conflict in interpretation of Section 103 is general throughout the Circuits.

The Court of Appeals for the Third Circuit, all seven Judges of that Court participating, in *Palmer Co. v. Ludens*, 236 F. 2d 496, agreed with the decision of the Second Circuit in *Lyon v. Bausch & Lomb*, saying (p 500:

> "We are inclined to accept the sensitive observations of Judge Learned Hand as to the judicial tendency of recent years, even within the language of the older decisions, to expect an indefinite 'more' of the proffered invention. The Act re-affirms the presumptive validity of patents (35 U. S. C., 1952 ed., Section 282), and specifies patentability in terms with which all in the field are familiar."

The Court of Appeals for the Fourth Circuit has likewise endorsed and followed the view of the Second Circuit, particularly on the dominance, under the statute, of objective evidence over hindsight. That Court said in *Brown v. Brock*, 240 F. 2d 723, 727, 728:

> "Section 103 of the new Patent Act of 1952, 35 U. S. C. A. § 103, in effect holds that a patent shall not be held invalid unless the differences between the subject matter patented and the prior art are such that the subject matter as a whole would have been

obvious, at the time the invention was made, to a person having ordinary skill in the art to which the subject matter pertains.

"The record here shows a longfelt and unsatisfied want for an acceptable weeping doll. As we have seen, a number of devices were attempted, but none served the purpose. If any solution to the problem had been obvious, it would not have been overlooked in the industry for want of desire or effort. Notwithstanding the persistent search of the doll industry, the solution achieved by Senior did not seem obvious to anyone else until he conceived and embodied it in the patent in suit. The contention of obviousness is more readily conceived *after* the event than is the solution while the problem remains unsolved. In respect to patents, as in other concerns of life, human experience teaches that 'obviousness' is often much clearer after the event than before; solutions which have remained persistently elusive leap distinctly into view after someone else has pointed them out.

"An infringer's contention that the solution was obvious is not infrequently stimulated by the commercial success of his competitor's patented product.

* * * * *

"The patent involved here certainly meets the standard of invention by the accepted tests, as recently explained in Lyon v. Bausch & Lomb Optical Co., 2 Cir., 224 F. 2d 530." (Emphasis by the Court.)

The Court of Appeals for the District of Columbia has also endorsed the view of the Second Circuit. It said in *L-O-F Glass Fibres v. Watson*, 228 F. 2d 40, 47 (Footnote 14):

"We may safely assume that the Patent Act of 1952, 35 U. S. C. A. § 103, was intended to restore 'the law to what it was when the Court announced the definition of invention.' See discussion by Judge Learned Hand in Lyon v. Bausch & Lomb Optical Co., 2 Cir.,

1955, 224 F. 2d 530, 535-536, certiorari denied 76 S. Ct. 193; cf. General Motors Corp. v. Estate Stove Co., 6 Cir., 1953, 203 F. 2d 912, certiorari denied, 1953, 346 U. S. 822, 74 S. Ct. 37, 98 L. Ed. 348."

The Court of Appeals for the Sixth Circuit, on the other hand, has agreed with the Court below that the new statute does not lower the new "high standard" of invention and restore the old standard. In *Bobertz v. General Motors Corp.*, 228 F. 2d 94, that Court said, pages 98, 99:

> "It seems almost idle to reiterate that quite a high standard of invention is now exacted to sustain combination claims embracing old elements in a patent.
>
> * * * * *
>
> "We are, however, of the view that the principle stated in the Great Atlantic & Pacific Tea Co. case is not modified by the new Act, but continues to be the law, and is here controlling."

(2) The Conflict with the Court of Appeals for the Fourth Circuit: The Court below held that the presumption of validity of patent Re. 23,272 as provided by the statute (35 U. S. C. 282) is destroyed by the citation of prior art not cited by the Patent Office Examiner, even though the new prior art is no better than that which was cited by the Patent Office. The Court below said (250 F. 2d 105, post pp. 30-31):

> "Appellant next contends that the presumption of validity of patent Re. 23,272 is heightened by the fact that the evidence of prior art relied on by appellees and the trial court is no better than that before the examiners of the Patent Office and by the fact that these examiners are skilled in the matter of deciding what is or is not obvious, reaching their decision at the critical time. It has been held that the presumption of validity of a patent does not exist as against evidence of prior art not before the Patent Office,

Royal Patent Corp. v. Monarch Tool & Mfg. Co., 6 Cir., 1953, 203 F. 2d 299, and there is every indication, contrary to appellant's statement, that the prior art was not before the Patent Office at the time it passed on the patent here in issue."

In *Otto v. Koppers Co.*, 246 F. 2d 789, the Court of Appeals for the Fourth Circuit held precisely to the contrary, stating (pages 800, 801):

"Much of the argument in this Court involves the presumption of validity which automatically attaches upon the issuance of a patent. 35 U. S. C. A. § 282; Diamond Rubber Co. of New York v. Consolidated Rubber Tire Co., 220 U. S. 428, 31 S. Ct. 444, 55 L. Ed. 527; Baker-Cammack Hosiery Mills v. Davis Co., 4 Cir., 181 F. 2d 550, a presumption which is strengthened when, as here, there were extensive administrative proceedings concerned with the prior art, Reynolds v. Whitin Machine Works, 4 Cir., 167 F. 2d 78.

* * * * *

"Astute and enterprising attorneys can always find references not of record in the Patent Office, but if they do not involve some substantial element in the defense of anticipation which was not considered by the Patent Office, the failure to make them record references cannot weaken the statutory presumption." (Emphasis ours.)

In the instant case defendant's expert admitted that no single prior art item disclosed the invention of patent Re. 23,272 (2 A. 891). He selected as the best prior art a conventional bolted bonnet valve and any one of three disclosures of pressure sealing joints. One of these three was the U. S. Bredtschneider patent 2,029,606 and another was the Universal Oil Autoclave (pressure vessel) which

included the joint of the Bredtschneider patent (2 A. 892).

The same prior art, the conventional bolted bonnet valve and the Bredtschneider U. S. patent 2,029,606, were cited by the Patent Office which, by its allowance of the claims in suit, ruled that it was not obvious to combine these prior art devices to produce petitioner's invention (2 A. 916, 922).

The only other prior art relied on by the Court below was an advertisement of this same Bredtschneider patent (Ex. 40, E. V. p. 21), 13 foreign counterparts of this same Bredtschneider patent, and the same Universal Oil Autoclave embodying a Bredtschneider joint (erroneously referred to by the Court below as "a valve").

The advertisement, Ex. 40, is stressed because, as the Court below said, it referred to the joint of the Bredtschneider patent and "stated it was available for use in pressure vessels such as valves" (250 F. 2d 103, post p. 28).

But, as the District Court found, the Bredtschneider patent itself disclosed to the art a pressure sealing joint "available for pressure vessels, one type of which is a valve." (Finding 29, 3 A. 1414.)

Thus, the advertisement, Ex. 40, disclosed nothing that the Bredtschneider patent had not disclosed, and nothing that had not been fully considered by the experts in the art in the Patent Office. But by the simple stratagem of citing another publication of the same disclosure the Examiner had cited, the statutory presumption of validity is destroyed under the ruling of the Court below.

(3) The Importance of the Questions Presented: Each of these questions (1) and (2) in which the Court below differed with other Circuits is of pressing importance today because of the decline in invention and scientific progress in this country.

From 1880 to about 1930 the number of patents granted each year remained substantially constant at about 40 patents for each 100,000 of the population. Beginning in about 1930 the number dropped sharply. Efforts to encourage inventors led to the inclusion of Sections 103 and 282 in the Patent Act of 1952, but those efforts will fail if the statutes are construed as they have been by the Court below. That such a decline would be the inevitable result of hostility to patents had been prophesied long before the launching of the Russian "sputniks" focused public attention on the situation.

In an editorial that appeared in the "Saturday Evening Post" for May 25, 1957 (Vol. 229, No. 47, page 10) it was said by Mr. Richard Spencer, a former First Assistant Commissioner of Patents:

> "What's the reason for the most powerful nation on earth lagging in technical and industrial development? A major part of the answer can be found in what's been happening to our patent system. Since around 1930, it has taken a beating that few people of this country know about.
>
> * * * * *
>
> "Around 1930, an antipatent movement got under way in this country."
>
> * * * * *
>
> "As a result of the beating which our patent system has been getting, invention has been drying up. There are changes and improvements in existing products, but few basically new items are on the market. We lag in the production of new machines

and processes, for peacetime uses and for national defense.

* * * * * /

"A new viewpoint more favorable to patents should be adopted by some of our judges. It must be made clear that we shall be unable to retain technological leadership in any field without a strong patent system. In these days of political uncertainties we must remain a strong nation; no matter what turn our political destiny takes, we must round the corner as a going concern fit for the problems that lie ahead.

"Whether the inventor is working for himself, in a basement workshop or in a plant, full time or part time, whether employed by a corporation as big as General Motors or DuPont, let him understand that from now on, when he comes up with an invention and secures a patent, he can obtain all the historic rights contemplated by the Constitution and the patent laws. If we do that, we shall enter the greatest age of progress mankind has known. And no totalitarian regime will outstrip America in anything."

A graphic picture of what has been happening to invention is shown by Figures 1 and 2 of the chart at the end of this petition. Figure 1 shows the total numbers of applications filed in the U. S. Patent Office and the total number of patents granted in the years from 1880 to 1957. Figure 2 shows the number of applications and the number of patents per capita. There was a rise in the curves coincident with the agitation for, and the passing of the Patent Act of 1952, but that rise has again turned into a decline.

(4) The Other Rulings by the Court Below: The decisions of this Court relied on by the Court below on "aggregation" and "old combination" are not applicable to inventions in which the elements of the combination

co-act to produce a new result (*Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U. S. 350, 356; *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U. S. 545, 552).

In the instant case the District Court found as a fact that the invention of patent Re. 23,272 obtains such new results in that it acts

> "so as to prevent leakage at all pressures without mis-aligning the valve stem with the seat"

and so transmit the stem reaction forces:

> "that none of these forces can act on the packing in a direction to open the joint or cause leakage." (3 A. pp. 1411-1412; Finding 20.)

These new results are produced by the relative arrangement claimed of both valve parts and joint sealing parts. The telescoped valve stem guide both transmits the pressure to the gasket to seal and prevents mis-alignment of the valve stem.

In holding non-infringement, the Court below said (250 F. 2d 109, post p. 40):

> "The test is whether the details of the accused valves are identical or *equivalent* to the details specified in the claims of the patent." (Emphasis by the Court.)

But this Court held in *Graver Mfg. Co. v. Linde Co.*, 339 U. S. 605, 607:

> "But courts have also recognized that to permit imitation of a patented invention which does not copy every literal detail would be to convert the protection of the patent grant into a hollow and useless thing."

The District Court found the accused structures lacked certain details of the claims, but made no finding either of equivalency or non-equivalency, despite undisputed proof of equivalency (2 A. pp. 518, 520, 525, 530-

532, 540, 544-545) and defendants' pleaded admission of equivalency (1 A. p. 21).

Respectfully submitted,

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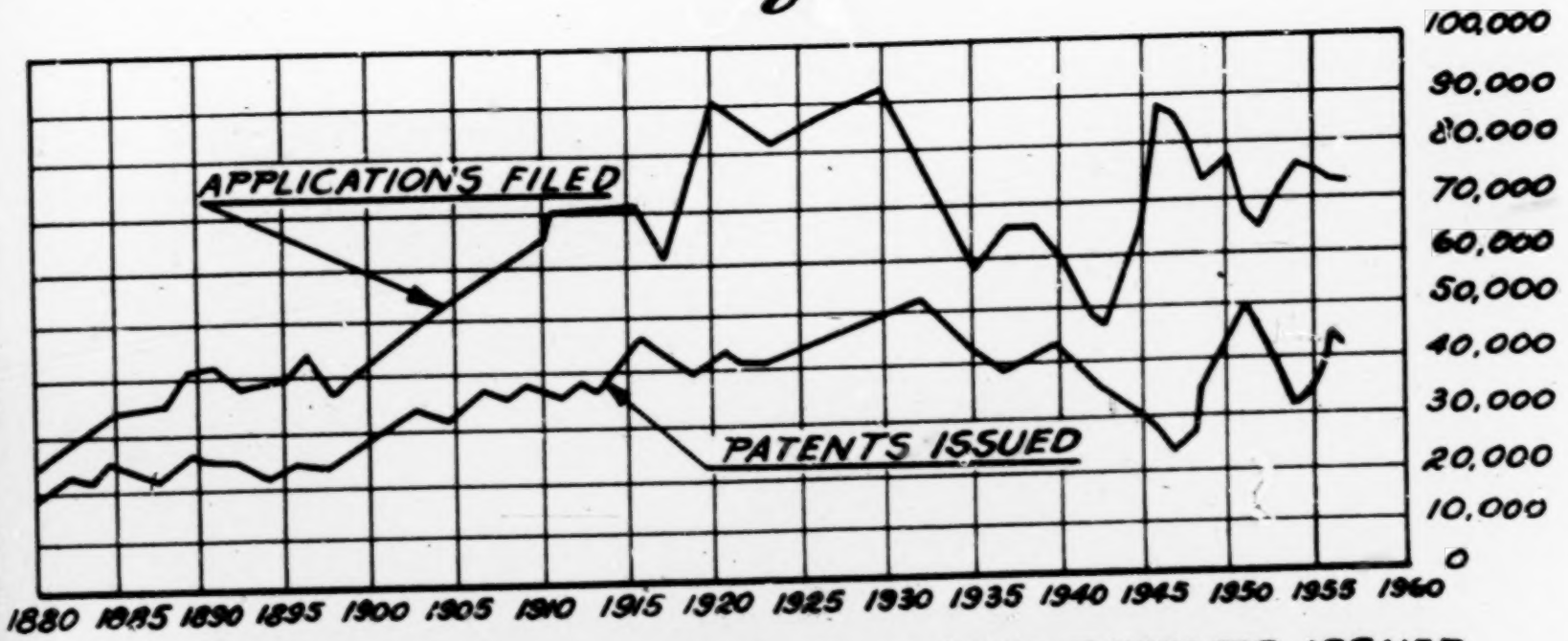
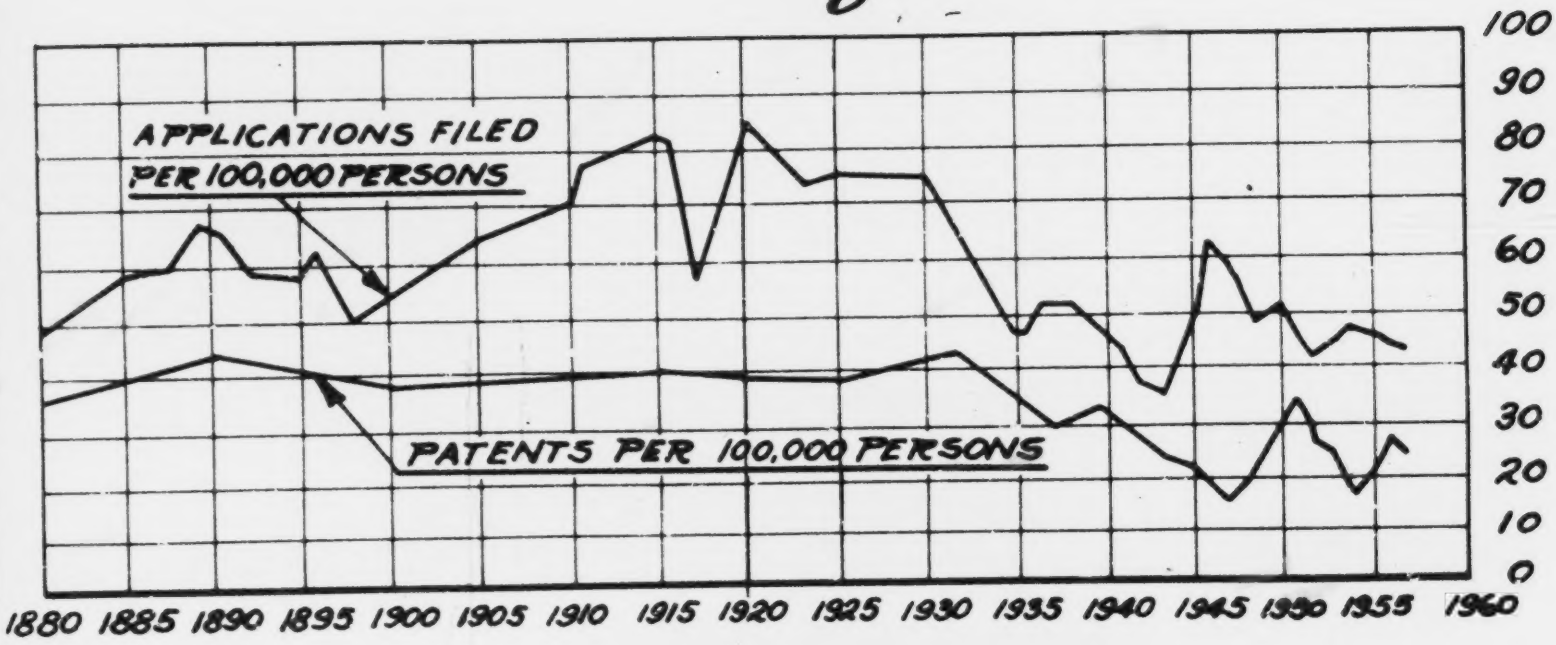
Fig. 1



PATENT APPLICATIONS FILED AND PATENTS ISSUED

1880 TO 1957

Fig. 2



INVENTION INDEX
1880 TO 1957

APPENDIX A.

OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

(Filed December 6, 1957.)

Before FINNEGAN, HASTINGS and PARKINSON, *Circuit Judges.*

HASTINGS, *Circuit Judge.* This action was brought to enjoin and to seek an accounting for damages resulting from alleged infringement of two patents on inventions relating to valves and joint seals for large flows of high temperature, high pressure fluids. Appellant, James C. Hobbs, maintains that William Powell Company, by manufacturing and selling certain valves and joint seals, and the Wisconsin Power and Light Company, by buying and using these same accused structures, have infringed the patents in suit. The district court held that claims 1 through 10, 12 through 15, 17, 19, 20, 22 and 23 of patent Re. 23,272 and claims 1, 5, 6 and 7 of patent Re. 23,137, presented for adjudication at the trial, were invalid, and ruled further that there was no infringement by appellees as to "any valid claim of any letters patent of the United States owned by the plaintiff." The district court's findings of fact, conclusions of law and judgment are printed at 145 F. Supp. 64 (1957). Error relied upon in this appeal arises from alleged erroneous applications of the law to the facts by the trial court.

The district court indicated in its findings that prior to 1938 there had been a long standing valve problem of preventing the body-bonnet joints of steam plant bolted bonnet valves from being pried open due to pressure and temperature forces. The bolted bonnet valves include a cover or bonnet, removably bolted to a flange around the access opening in the body (pipe) by a circle of bolts.

A ring of compressible material such as asbestos or soft metal is used to seal the crevice between the bolted flanges of the bonnet and the body. The joints are sealed initially by tightening the bolts, but the joints tend to leak from the loads created by temperature changes and the pressure of confined liquid. Patent Re. 23,272 sought to eliminate this leakage and maintenance problem. Appellant maintains that a new result was achieved by a new combination and arrangement of parts and that, briefly, this result was "accomplished by a floating guide slidably telescoped in the body" to align the valve stem with the valve seat in the body (instead of the fixed guide of the prior art), a pressure sealing joint between the floating guide and the cylindrical wall of the body, and a yoke connected to transmit forces from the valve stem to the body so that none of the forces could act to open the joint.

Patent Re. 23,137 relates to alleged new seals for the ends of pipes carrying fluids under high pressures. It is appellant's contention that there is nothing in the prior art showing the claimed pressure seal joint with a wedge-shaped sealing ring contacting at its thin end a conical surface of an inner member and a substantially cylindrical wall of the body, the sealing ring being inclined at a small angle of "approximately 2°" to the conical surface of the inner member.

Patent Re. 23,272 was granted September 26, 1950 on application filed April 29, 1950 for the reissue of patent number 2,321,597, dated June 15, 1943 which was granted on application filed February 23, 1940. Patent Re. 23,137 was granted July 26, 1949 on application filed May 26, 1949 for the reissue of patent number 2,443,187 dated June 15, 1948 which was granted on application dated August 15, 1944. Both reissue patents are the property of the appellant, James C. Hobbs, who, after studying and

teaching mechanical engineering at the Carnegie Institute of Technology, started working, in 1911, in the operation and design of steam power equipment. While working with the Diamond Alkali Company at Painesville, Ohio, he designed and built in 1928 and in 1933 to 1934, two steam power plants to generate steam at higher temperatures and pressures than used previously by that company. It is appellant's contention that prior to June of 1937, he and his assistants at Diamond Alkali had completed a series of drawings disclosing the invention of patent Re. 23,272 and that a final drawing, submitted in evidence as exhibit 52, was made up from this series. The court found that this drawing was sent to leading valve manufacturers along with requests for bids for necessary valves for a proposed new high pressure plant. It is admitted that Powell Company did submit to appellant's company several drawings of proposed steam and water valves of various types, incorporating much designing effort and skill on the part of Powell Company personnel, and that subsequently, Powell Company manufactured and sold the pressure seal valves to Diamond Alkali. The district court found also that these valves "embodied a pressure seal joint having a differential angle between the metallic ring, the bonnet and the body and which responded fully to Claims 1, 5, 6 and 7 of patent Re. 23,137 * * *." These pressure seal valves went into operation June 3, 1939, were used successfully in the Diamond Alkali plant and achieved widespread acceptance and extensive commercial success.

The district court concluded that patent Re. 23,272 was invalid because the patentee was not the original and first inventor, because the alleged invention amounted to an exhausted combination or an aggregation of old elements, because of anticipation and want of invention, and,

finally, because the patent specification did not contain, "a written description of the alleged invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, to make and use the same and does not set forth the best mode of carrying out the alleged invention." Patent Re. 23,137 was determined invalid for anticipation and want of invention and also because the subject matter of the patent was in public use or on sale more than one year before the patent application was filed by the patentee.

Appellant maintains that the trial court erred as to all of these conclusions, and that each involves an erroneous application of the law to the facts. A regularly issued patent is presumed valid until the presumption has been overcome by convincing evidence of error. *Mumm v. Decker*, 301 U. S. 168 (1937); *Radio Corp. v. Radio Laboratories*, 293 U. S. 1 (1934). The question of whether or not a trial court has employed the correct criteria of invention in determining the validity of a patent is one of law subject to review on appeal. *Great A. & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U. S. 147 (1950); *Noble Co. v. Johnson Co.*, 7 Cir., 241 F. 2d 469, 475 (1957). Also, this court, under Rule 52(a) of the Federal Rules of Civil Procedure, 28 U. S. C. A. must make due allowance for the advantages possessed by the trial court in resolving any conflicting testimony, reversing only clearly erroneous findings of fact. *Weller Manufacturing Co. v. Wen Products, Inc.*, 7 Cir., 231 F. 2d 795, 797 (1956); *Noble Co. v. Johnson Co., supra*. After a careful consideration, in line with these holdings, this court concludes that the contentions of appellant are, on the whole, without merit.

Closely related questions arise in the determination of whether the patentee, Hobbs, was the inventor of the subject matter of the patent (see 35 U. S. C. A. Section 102(f)) and the determination of whether there was anticipation by, and lack of invention over, the prior art as to this purported invention. (see 35 U. S. C. A. Sections 102(e), and 103.) Appellant urges that he conceived the principle of invention, embodied it in a drawing (exhibit 52) and disclosed that drawing to Powell Company. Appellant then contends that the trial court was misled by evidence that Powell Company had contributed a certain amount of engineering and designing skill in the construction of the pressure seal valves into the conclusion that the patentee was not the sole first and original inventor. It is fundamental that an inventor is one who discovers the new principle of an invention and that he is not deprived of the right to patent by the fact that others performed the engineering and mechanical work. *United Shirt & Collar Co. v. Beattie,* 2 Cir., 149 Fed. 736, 741-742 (1906), cert. den. 205 U. S. 547; Walker, *Patents,* Deller's Edition 399. Appellant, in thus presenting this issue, puts Powell Company in the position of a defendant claiming to be a joint inventor. This is not the case. Appellee, Powell Company, asserted in its answer that the disclosures in patent Re. 23,272 did not originate with appellant but were abstracted or copied from information and data that he obtained from Powell Company and other persons who negotiated with him in good faith. This is not a claim of joint invention but rather that the invention was not made by appellant.

Appellees contend that Hobbs was shown not to be the inventor of what patent Re. 23,272 discloses because the idea or principle of invention, that is, a high pressure

valve with a pressure seal joint, was disclosed to him in March of 1937 by an advertisement for the Bredtschneider United States patent number 2,029,686. That advertisement described the patent of a high pressure seal and stated it was available for use in pressure vessels such as valves. The findings of fact further show, appellees point out, that appellant actually consulted with the American representative of the holder of the Bredtschneider patent and foreign counterparts and that, subsequently, appellant negotiated and consulted with Powell Company on the design and construction of the pressure seal valves which are the subject matter of patent Re. 23,272. Finding 29 of the trial court indicated that "[a]s early as 1929 with the issuance of the British counterpart (Ex. 108) of the Bredtschneider United States Patent 2,029,686, the art knew that a high pressure joint corresponding in detail to that of Hobbs' alleged conception drawing * * * was available for pressure vessels, one type of which is a valve." Further findings indicate that the Bredtschneider patent and thirteen foreign counterparts were owned, in part, by Friedrich Uhde who, subsequent to 1932, after building and testing several pressure vessels incorporating the Bredtschneider joint, manufactured and shipped several devices from his plant in Germany to European countries and to Japan and Manchuria, and that a valve manufactured by Uhde's plant in Germany was shipped to Universal Oil Products Company at Riverside, Illinois and used there successfully from February 15, 1935 to March 15, 1935 for pressures up to 1900 pounds per square inch and to temperatures up to 806 F. On these findings, based on substantial evidence, the court could correctly conclude that appellant conceived no new principle of invention.

From these findings and the findings as to the general state of the prior art of valve manufacture, the court below could also conclude that there was anticipation and lack of invention. Patent law provides that there is lack of invention if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U. S. C. A. Section 103. This court in the recent case of *Helms Products, Inc. v. Lake Shore Mfg. Co.*, 7 Cir., 227 F. 2d 677, 682 (1955) stated that this statute sets forth essentially the same test which had been applied in this circuit for a number of years, and which found expression in *Foster v. T. L. Smith Co.*, 7 Cir., 244 Fed. 946, 952 (1917) as follows: "If the idea of the patent in suit so obtruded itself from the prior art that the ordinary mechanic could not help from stumbling upon it, then of course no invention was involved." The district court's holding in the instant case is in accord. A reference to what was known in the prior art indicates what would have been obvious "at the time the invention was made." Valve construction prior to 1938 included all the elements found in appellant's valve. The various types of joints, including flanged, welded, screwed, and union bonnet joints were known. The pressure seal was similarly known to the art and the man skilled in the art, could have, as his needs dictated, shifted from one type of joint to another. Appellant's expert admitted this as to all of the types of joints but the pressure seal. Appellant was bound to know the teachings of the art and by merely adapting the teaching as a skilled mechanic would do, he did not achieve patentable invention. *Borkland v. Pedersen*, 7 Cir., 244

F. 2d 501, 502 (1957); *Smith v. Dravo Corp.*, 7 Cir., 203 F. 2d 369, 380-381 (1953).

Appellant specifically attacks the court's finding that the disclosure of patent Re. 23,272 was "known to the art more than two years prior to February 23, 1940." (the date of application for the patent). It is his contention that the finding, if accurate, lends no support to the conclusion of invalidity since his disclosure was made in the Fall of 1937 when he sent the drawing to various manufacturers. Appellant points out that the court limited its finding to two years prior to the date of the application because of a confusion between the applicable section of the code dealing with obviousness and non-invention (35 U. S. C. A. Section 103) and the section of the code dealing with other conditions for patentability (35 U. S. C. A. Section 102).[1] The contention of appellant that the finding of the trial court is indicative only of "obviousness" after the "disclosure" by him in the Fall of 1937, even leaving aside the question of the worth of his disclosure, still does not prevail against the more basic findings that there was prior art pointing to this claimed invention and making it obvous to the mechanic skilled in the art.

Appellant next contends that the presumption of validity of patent Re. 23,272 is heightened by the fact that the evidence of prior art relied on by appellees and the trial court is no better than that before the examiners of the Patent Office and by the fact that these examiners are skilled in the matter of deciding what is or is not obvious, reaching their decision at the critical time. It has been held that the presumption of validity of a patent does not exist as against evidence of prior art not before

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[1] A similar confusion is apparent in the district court's finding 50 dealing with patent Re. 23,137.

the Patent Office, *Royal Patent Corp. v. Monarch Tool & Mfg. Co.*, 6 Cir., 203 F. 2d 299 (1953), and there is every indication, contrary to appellant's statement, that the prior art was not before the Patent Office at the time it passed on the patent here in issue.

The so-called objective tests relied on by appellant to support the position that invention was involved here are not persuasive or impressive if the record is examined closely. Appellant stresses evidence of a long felt want, license acceptance and commercial success of the patent, as well as prior attempts and failures to achieve solution of the bolted bonnet problem. "Copying" and acceptance of the patent by the defendant, Powell Company, and skepticism as to the worth of the valve prior to its successful use are also emphasized. There was a finding of the existence of a problem in connection with the bolted bonnet valves and that there had been other attempts and failures to solve this problem. The evidence is not clear that appellant's efforts have alone met with success in this area, nor has the bolted bonnet valve fallen into disuse as a consequence of the alleged invention. In fact, the trial court found that these valves are still offered for use as particularly well-suited for high pressure, high temperature service, and also that the welded bonnet valve used in the prior art for high temperature, high pressure service, is now being manufactured and sold to meet conditions as severe or more severe than those of valves manufactured by appellant's licensees. The evidence of commercial success and license acceptance of the patent is particularly emphasized. The record shows two licenses, each involving a number of patents of appellant, indicating possibly that as to a group of patents a manufacturer for business reasons would rather pay royalty than be involved in litigation. See *Thropp's Sons Co. v.*

Seiberling, 264 U. S. 320, 329 (1924). The skepticism to which appellant refers was directed in the main toward the worth of his valve design submitted to manufacturers for bids. Powell Company explained its license acceptance of the patent, a license which it has since voluntarily abandoned and for which it paid the minimum of $5000 royalty, as a favor to appellant who needed three manufacturers to bid on some Navy contracts and had only two. It should finally be noted that objective considerations cannot lend validity to a patent where as here invention is plainly lacking. See *Great A. & P. Tea Co. v. Supermarket Equipment Corp., supra; Goldman v. Bobins*, 7 Cir., 245 F. 2d 840, 844 (1957).

Appellant finally urges that the Bredtschneider patent (above) and the Murphy patent 1,350,666, both of which are alleged to be anticipatory of the subject matter of patent Re. 23,272, are mere paper patents, or patents which have never been used commercially and that as such they may not be used to indicate a lack of invention over the prior art. It has been held otherwise. *Holland Co. v. American Steel Foundries*, 7 Cir., 196 F. 2d 749, 752 (1952). See also *Royal Patent Corp. v. Monarch Tool & Mfg. Co.*, 6 Cir., 203 F. 2d 299, 301 (1953); *Killian & Co. v. Allied Latex Corp.*, 2 Cir., 188 F. 2d 940 (1951). In the *Killian* case, Judge Learned Hand pointed out at page 942: "The phrase, 'paper patent,' is a mere bit of rhetoric, usually employed as a makeweight by judges who wish to support the patent in suit, but are embarrassed by a reference, of an escape from which they are not too confident. It is a meaningless platitude." The fact that prior patents have not been used commercially is relevant only in so far as it tends to indicate that the step from them to the patent in suit actually involved invention.

Patent Re. 23,272 was also concluded invalid as an aggregation of old elements producing no new result. In urging that the trial court erred in so holding, appellant stresses the findings of fact which indicate that a recognized problem existed as to the bolted bonnet valve, namely that pressure and temperature forces tended to pry open the joint and permit leakage, and the further finding that appellant's valve met this problem receiving "wide public adoption" and "extensive commercial success." Appellant seeks from these findings the conclusion that the purported invention is a new combination or arrangement of old elements producing new results. See *Blaw-Knox v. I. D. Lain*, 7 Cir., 230 F. 2d 373 (1956) where this Court held valid a combination of three old elements consisting of a concrete spreader, a cut off scraper and a vibrating member arranged in a particular position to achieve a new result, that new result amounting to the eradication of the honeycombing effect in the spreading of concrete which had been a problem in the art until then.

The pressure seal joint of appellant's valve was present in the prior art and a characteristic of each of the prior art internal seals was that, as pressure within the vessel or valve increased, a tighter seal between cover and body was effected. The valve elements are not claimed to be new except for the inner member, and the trial court indicated (finding 26) that the "patent to Murphy No. 1,350,066, the patent to Bredtschneider No. 2,029,606, and the Universal Oil Products autoclave prior use and knowledge by Mavity are examples of such internal pressure seals which have abutment members, inner members, gaskets, and means for creating initial seal, generally similar to and the equivalent of the corresponding elements disclosed

in Patent Re. 23,272." The parts of this alleged invention are old and the bringing together of these old elements produces no new result. The change in the joint brought about no change of function of the valve elements or joint elements, and there is no interaction between the various valve and closure elements. See *Toledo Pressed Steel Co. v. Standard Parts, Inc.*, 307 U. S. 350, 356 (1939), where the Supreme Court held invalid, as an aggregation of two old devices producing no new result, a patent relating to open flame torches. The Court in ruling invalidity emphasized the fact that the separate elements "performed no joint function. Each served separately as it had done." Appellant here similarly brought together two old devices to accomplish his objective of providing a seal which would tighten as pressure increased. See also *Great A. & P. Tea Co. v. Supermarket Equipment Corp.*, 340 U. S. 147, 152 (1950) where the Court held invalid as an aggregation a patent on a merchandise counter stating that combination patents should be carefully scrutinized "with a care proportioned to the difficulty and the improbability of finding invention in an assembly of old elements," concluding that, "[t]he function of a patent is to add to the sum of useful knowledge. Patents cannot be sustained when, on the contrary, their effect is to subtract from former resources freely available to skilled artisans."

The alleged invention is at best an improvement of one part of an old combination. Valves with all the valve parts claimed by Hobbs and with various types of joints, including pressure seals, were old to the art. The substitution of a specific pressure seal does not warrant the patent. See *Lincoln Engineering Co. v. Stewart-Warner Corp.*, 303 U. S. 545, 549-550, where the Court states: "[T]he improvement of one part of an old combination gives no right to claim that improvement in combination

with other old parts which perform no new function in combination." See also the decisions of this Court in *Aetna Ball & Roller Bearing Co. v. Standard Unit Parts Corp.*, 7 Cir., 198 F. 2d 222, 227 (1952); *Hydraulic Press Mfg. Co. v. Williams, White & Co.*, 7 Cir., 165 F. 2d 489, 494 (1947).

The trial court admittedly employed an erroneous statutory test in concluding that the specification of patent 23,272 "does not set forth the best mode of carrying out the alleged invention." The section in question requires only "the best mode *contemplated by the inventor* of carrying out the invention." 35 U. S. C. A. Section 112 (Emphasis supplied.) It is unnecessary to consider this point further in view of our holding that the patent is invalid on other grounds.

The other patent in suit, patent Re. 23,137, was correctly concluded invalid for anticipation and want of invention. The court in finding 47 stated the following: "Pressure seal joints in which a wedge-shaped sealing ring was employed to seal between a conical member and a cylindrical surface and in which there was a differential angle between the sealing ring and one of the surfaces, were known to the art long prior to August 15, 1943. An example of such a joint was shown in the proceedings of the American Academy of Arts and Sciences, 1911, in an article published by Dr. P. W. Bridgman. This same disclosure was republished in 1931 in 'The Physics of High Pressure' by Dr. P. W. Bridgman and again in 1934 in 'The Design and Construction of High Pressure Chemical Plant' by Harold Tongue. The art also had knowledge of other structures employing similar line contact between the sealing ring and the members being sealed, an example being the Bredtschneider Patent No. 2,029,606."

The evidence shows that the prior art understood the basic concept of the pressure seal joint. Appellant chooses to criticize the anticipatory use by Bridgman because of the specific gasket material Bridgman used and because of the difference in differential angle. Patent Re. 23,137 does not, however, provide for a specific type of gasket metal, only "one softer than the pipe." As to the angle of differential, appellant seems to take the position that patentability is achieved by his use of a smaller differential angle of approximately two degrees which "operates in a new way and achieves the new result eradicating the defects previously encountered." As a general rule, it is not invention to change the size or degree of a thing or of any feature or function of a machine or manufacture. See Walker, *Patents*, Deller's Edition 189 and cases cited and discussed in that text. A classic exception is the case of *Eibel Process Co. v. Minnesota & Ontario Paper Co.* 261 U. S. 45, 67 (1923) where patentee discovered that an increase in degree of pitch of the Fourdrinier wire of a paper making machine brought about a marked increase in production. The Supreme Court found the change to be directed to a new principle, "a wholly different object," from that of the prior art.

This Court has held that a change of degree is not patentable, *Simmons Co. v. Superior Felt & Bedding Co.*, 7 Cir., 107 F. 2d 536 (1939), but see *Peerless Equip. Co. v. W. H. Miner, Inc.*, 7 Cir., 93 F. 2d 98, 103 (1938), cert. den. 303 U. S. 641, where the court points out: "It is * * * true that the mere carrying forward of the original thought with a change only in form, proportion or degree, in doing the same thing the same way by substantially the same means, but with better results, is not such invention as will sustain a patent. But where different concepts, purposes and objects are involved, as we understand the

law, this rule is not always to be arbitrarily applied, and when different means are employed, followed by success where failure theretofore existed, there is no basis for the application of the rule."

Appellant contends that in the prior art, as indicated by Bridgeman's use of a larger differential angle, although it is conceded that no specific angle was denoted by Bridgman, there would be a "pinching off" effect or detrimental extrusion of metal of the gasket ring. It is urged that this does not occur in appellant's pressure seal joint because, as appellant's expert, Robert Sessions, testified "[T]he angle is so small that the area of contact between the sealing ring, the conical surface of the sealing ring, and the beveled or tapered surface of the inner member of the valve or joint, becomes progressively wider quite rapidly, as increasing pressure is applied so that wide area resists further deformation." We hold that this change does not amount to patentable invention. No "different concepts, purposes or objects are involved." It amounts to doing the same thing substantially the same way with better results.

The District Court also concluded that the claims in suit under patent 23,137 were invalid because "devices which they claimed to cover were in public use and sold in this country more than one year" prior to the application for the patent of which Re. 23,137 is the reissue. 35 U. S. C. Section 102(b). This conclusion is based solely on findings that the 1938 valves made by Powell Company and sold to Diamond Alkali had pressure seals responding fully to the claims of patent Re. 23,137, and that in August of 1938, the General Electric Company had sold and delivered to Diamond Alkali a throttle valve employing a pressure seal responding fully to the claims of the patent. These pressure seals were admittedly used in that plant for

a period of six years prior to the application for the patent upon which Re. 23,137 was made.

Appellant contends that this use of the joints was for experimental purpose prior to application for patent. A use for experimental purposes is not a public use "if it is conducted in good faith for the purpose of testing the qualities of the invention and for no other purpose not naturally incident to that." Walker, *Patents*, Deller's Edition 347. See also *Cline Electric Mfg. Co. v. Kohler*, 7 Cir., 27 F. 2d 638, 641 (1928).

The testimony of Hobbs alone supports his contention that the use of the invention was, by oral agreement with Diamond Alkali, an experimental use. He testified that Diamond Alkali spent over a million dollars to develop a plant so that he could experiment with the valves and joint seals in question and that it was their arrangement that all profits (over two million a year, he said) went to the company of which he was a stockholder. This arrangement was purportedly made with the then vice president of Diamond Alkali who is now dead.

It is not clear that the trial court rejected this testimony in arriving at its conclusion of law that the use by Diamond Alkali was a "public use." The court made no findings of fact to support its conclusions. Not every sale of an invention nor every use is such a public use or sale as indicates an intent to abandon that invention. There is no indication that the trial court even considered this. Appellant relies on *Elizabeth v. Pavement Co.*, 97 U. S. 726 (1877) which involved an invention for highway pavement. The pavement was installed in a toll road and used publicly for a period of six years. The Supreme Court held this an experimental use emphasizing the fact that the circumstances of each case must be considered to determine if the inventor actually intended to

abandon. Emphasized by the Court were circumstances indicating that Nicholson actually retained control of the invention, that he built the road at his own expense, that he was a stockholder and treasurer of the corporation which collected the tolls, and that his day by day conduct indicated that he intended to apply for a patent when he was satisfied that no further improvements were necessary. Because the trial court in the instant case failed to make the requisite findings, its conclusion of law cannot be sustained. This patent was found invalid for lack of invention, however, and it will not be necessary to remand the case for further findings on the question of public use.

In light of our affirmance of the district court's finding of invalidity, a question arises as to the necessity of passing on the defense of non-infringement. The practice of this Court has been to give full consideration to both questions. It is appellant's position that the trial court erred as a matter of law in accepting merely immaterial distinctions in name and form alone to conclude that patent Re. 23,272 was not infringed. Infringement is present where there is identity of operation and results and substantial identity of structure. Distinction in name and form alone is legally immaterial. *Hunt v. Armour & Co.*, 7 Cir., 185 F. 2d 722, 728 (1950) where this Court said: "[T]he test of infringement is whether the accused device does the same work in substantially the same way and accomplishes the same result."

The Supreme Court has pointed out in *Graver Tank & Mfg. Co., Inc. v. Linde Air Products*, 339 U. S. 605, 609-610 (1950) that equivalency must be determined against the context of the patent, the prior art and the particular circumstances of the case. It is a determination of fact in which the trial court's decision "should not be disturbed unless clearly erroneous." We do not find such to be

the case here. The accused valves function as valves and are thus similar to those of appellant. This is not the test. The test is whether the details of the accused valves are identical or *equivalent* to the details specified in the claims of the patent. Claim 4 is typical of the claims and calls for: "A valve for high pressure fluid comprising a metal body having a valve-receiving opening, outer and inner telescoped annular members in said opening having axially opposed surfaces, annular packing between said opposed surfaces and engaging the wall of said opening, said outer and inner members and packing being non-rotable relative to each other, a valve carrying stem extending axially thru said inner member, packing around said stem in said inner member, and means carried by said outer member for actuating said valve stem."

The accused forms 3, 4 and 5 do not embody this structure. In those devices there is a segmental thrust ring of four parts which is placed in the body after the inner member and valve stem, and the four parts are each placed in the body separately and constitute an abutment. The yoke arm is independently mounted on the body. It does not touch and forms no part of the abutment against which the gasket presses to seal between the inner member and the body. In addition, none of the accused's structures have an inner and outer member with a sliding fit. This is important in patentee's structure where there was indicated some kind of guiding function performed by the inner member. Also, the accused valves 1 and 2 do not have any structural needs to prevent relative rotation of the inner and outer members and packing. The court's findings 43 through 45 indicate various other elements of the claims not found in the accused valves.

As to patent Re. 23,137, the court found that the accused valves sealed between a conical surface on the bon-

net and a conical surface on the body. The accused valves do not seal nor do they have the means to seal between the bonnet and a cylindrical surface on the body as specified in the claims in suit. Appellant's position is that his claim is as to a seal between a conical surface and a "substantially" cylindrical surface. He maintains that "substantially cylindrical" is the equivalent of conical, and the departure from a mathematical cylinder does not prevent the realization of the new operation of the patent. Infringement, appellant, urges, exists as a matter of law under the doctrine of equivalents. This is true, he states, even if the conical portion of the wall is an improvement, citing *Tempco Electric Motor Co. v. Apco Mfg. Co.*, 275 U. S. 319 (1927) where the Supreme Court stated at page 328: "the improver without a license is an infringer and may be sued as such." We do not accept appellant's contention. The joints of the accused valve do not have the same structure nor do they obtain the same result. The Patent Office rejected the broad claims by appellant of seals between conical surfaces. The claim was limited to a seal between a conical surface on the member and a cylindrical surface on the body. The Patent Office later permitted an amendment allowing for a claim of seal between conical and substantially cylindrical surfaces but this does not, as appellant contends, broaden his claim to take in the original rejected claims. Appellant is estopped to claim infringement as to seals between conical surfaces. *Lewis v. Avco Mfg. Corp.*, 7 Cir., 228 F. 2d 919 924 (1956). The District Court correctly held there was no infringement.

The judgment is

AFFIRMED.

JUDGMENT OF THE UNITED STATES COURT OF APPEALS FOR THE SEVENTH CIRCUIT.

(Entered December 6, 1957.)

This cause came on to be heard on the transcript of the record from the United States District Court for the Western District of Wisconsin, and was argued by counsel.

On consideration whereof, it is ordered and adjudged by this Court that the judgment of the said District Court in this cause appealed from be, and the same is hereby, AFFIRMED, with costs.